

**Notice of Allowability**

Application No.

10/784,494

Applicant(s)

MACHIDA, SATOSHI

Examiner

Art Unit

Kevin Wyatt

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to the Amendment after final and remarks filed 07/12/2006.
2.  The allowed claim(s) is/are 1,3,5-7,10-12 and 21-23.
3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None of the:
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached  
1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of  
Paper No./Mail Date \_\_\_\_\_.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_

*Georgia Y. Epps*  
Georgia Y. Epps  
Supervisory Patent Examiner  
Technology Center 2800

## DETAILED ACTION

### ***Allowable Subject Matter***

1. Claims 1, 3, 5-7, 10-12 and 21-23 are allowed.
2. The following is an examiner's statement of reasons for allowance:

Regarding claims 1 and 10, the prior art fails to disclose or make obvious a signal processing circuit comprising, in addition to the other recited limitations of the claim, "a subtracter connected to receive an output signal of the sample/hold circuit and the input signal and for obtaining a difference between the output signal of the sample/hold circuit and the input signal, and a voltage clamp circuit for clamping a part or all of an output signal from the subtracter."

Regarding claim 21, the prior art fails to disclose or make obvious a signal processing method comprising, in addition to the other recited steps of the claim, "sampling the input signal and holding the optical signal component of the input signal using a sample/hold circuit; obtaining a difference between an output signal of the sample/hold circuit and the input signal using a subtracter; and clamping a part or all of an output signal from the subtracter using a voltage clamp circuit."

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Boisvert (U.S. Patent No. 6,587,143 B1) discloses a correlated double sampler with single amplifier.

Hashimoto (U.S. Patent No. 4,652,927) discloses image sensing device.

Hieda (U.S. Patent No. 6,088,057) discloses an image pickup apparatus with reduced signal noise.

Sato (U.S. Patent No. 6,580,465 B1) discloses a clamp voltage generating circuit and clamp level adjusting method.

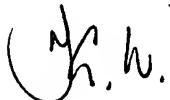
Tsunai (U.S. Patent No. 5,966,172) discloses a signal processing circuit for solid state image sensor having a structure for suppressing a reset noise.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Wyatt whose telephone number is (571)-272-5974. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571)-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



K.W.



Georgia M. Epps  
Georgia Epps  
Supervisory Patent Examiner  
Technology Center 2800